REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Office Action mailed March 9, 2009. Claims 1-7 remain in this application. In view of the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Interview Summary

Applicants appreciate the courtesy granted to Applicant's attorney, Michael A. Scaturro (Reg. No. 51,356), during a telephonic interview conducted on Tuesday, April 28, 2009. During the telephonic interview, a proposed amendment to independent Claim 1 was discussed. The Examiner indicated that the proposed amendment appeared on its face to overcome the cited art. The Examiner will issue an interview summary stating the same.

Rejections under 35 U.S.C. §102(b)

In the Office Action, Claims 1-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by the /Ethereal NoC ("Ethereal") as disclosed in "Concepts and Implementation of the Philips Network-on-Chip" by Dielissen et al. ("Dielissen") and "Communication Services for Networks on Chip") by Radulescu et al. ("Radulescu"). Applicant respectfully traverse the rejections.

The cited portions of Radilescu fail to disclose or suggest "*a mapping means (A) for mapping the requested at least one communication service based on said specific communication properties to a connection based on a set of connection properties according to said at least one communication service identification, wherein said at least one communication service identification comprises at least one communication thread or at least one address range, said address range for identifying one or more second processing modules (S) or a memory region within said one or more second processing modules (S)*', as recited in Claim 1 (Emphasis Added).

The Office Action asserts at page 4, with respect to the rejection of claim 3, whose elements are incorporated in part into claim 1 as amended, that IEthereal discloses that said communication service identification comprises at least one communication thread, wherein

said at least one communication thread is mapped to at least one connection based on a set of connection properties. The Office Action refers Applicants to page 288 of Dielissen. Given that Dielissen is an 8 page document, numbered 1-8, Applicants assume that the Office was in error and was instead referring to Radilescu at page 288. Based on this assumption, Applicants have reviewed Radilescu at page 288 and determined that Radilescu describes an IEthereal connection and transaction model, beginning at the bottom of page 287 through page 288. Radilescu discloses that the IPs interact with the network via NI ports (NIP) through which communication services are accessed. Communications between NIPs are performed on connections. Connections describe and identify communications with different properties, such as guaranteed throughput, bounded latency and jitter, ordered delivery or flow control. Radilescu discloses that to guarantee communications of 1Mbs and 25Mbs, two connections can be used.

Applicants respectfully submit that Radilescu at pages 287-288 is not describing a mapping means but is instead describing a fixed hardware configuration between IPs and network NI ports (NIP) that is required to be set up a-priori to receiving service requests during an operational stage. In fact, Radilescu teaches at page 288, second full paragraph, that AThereal connections must be created with the desired properties before being used (i.e. prior to mapping communication service requests).

Applicants respectfully submit that, in contrast to Radilescu, the invention is based on the idea of offering differentiated services for protocols such as DTL, MTL, AXI, and OCP, by mapping the identification means of these protocols to connections. The identification means in the existing protocols are: communication threads and addresses, i.e. the threads or addresses are mapped to connections through the interconnect based on specific connection properties. Applicants submit that this is different from Radilscu which describes end-to-end flow control and guaranteed throughputs, but is silent with respect to offering differentiated services for protocols such as DTL, MTL, AXI, and OCP, by mapping the identification means of these protocols to connections.

Further, the description at pages 287-288 of Radilescu does not teach or suggest the

elements of claim 1. Instead Radilescu teaches the creation of desired properties **prior to their use** which is different from the **mapping means** recited in claim 1. Accordingly, there is no teaching or suggestion in Radilescu of a mapping means (A) for mapping the requested at least one communication service based on said specific communication properties to a connection based on a set of connection properties according to said at least one communication service identification, wherein said at least one communication service identification comprises at least one communication thread or at least one address range, said address range for identifying one or more second processing modules (S) or a memory region within said one or more second processing modules (S), as recited in claim 1.

To further highlight the distinction between the exclusive creation of desired properties **prior to their use**, as taught in Radilescu and the invention, Applicants respectfully refer to a specific example in Applicant's specification. Fig. 4 is a block diagram for specifically illustrating the operation of mapping (i.e., mapping means) of IP block communication via address ranges to connections. As described below, the network interface, NI, associated to the master M maps the communication to the first slave to an address range 000-7FFF to a connection id cid=0 and performs a similar operation for mapping the communication to the second slave.

As described in the specification at pages 10-11

Fig. 4 shows a basic block diagram of a network on chip for illustrating the operation of the mapping of IP block communication via address ranges to connections. The network on chip comprises a master M and two slaves Si, S2 each being connected to a network via a network interface NI, respectively. The two slaves SI, S2 are implemented as memories, wherein the first slave Si comprises the address range 0000 - 7FFF and the second slave S2 comprises the address range 8000 — FFFF. **Accordingly, the network interface NI associated to the master M may map the communication to the first slave Si, i.e. to the address range 0000 - 7FFF, to a connection with the connection id cid=0 and the communication to the second salve S2, i.e. to the address range 8000 - FFFF, to a connection with the connection id cid=1.** Hence, protocols where there are no communication threads (e.g., DTL, MTL), address ranges can be mapped to specific connections. An address range can identify one or more slave modules, or a memory region within a slave module, e.g. a buffer used in some particular communication . [Emphasis Added]

The cited portions of Dielissen fail to disclose or suggest "*a mapping means (A) for mapping the requested at least one communication service based on said specific communication properties to a connection based on a set of connection properties according to said at least one communication service identification, wherein said at least one communication service identification comprises at least one communication thread or at least one address range, said address range for identifying one or more second processing modules (S) or a memory region within said one or more second processing modules (S)*', as recited in Claim 1 (Emphasis Added).

Instead, Dielissen describes at pages 3-4, sections 2.2.1 and 2.2.2 describes a network interface (NI) for providing conversion of the packet-based communication of the network to the higher-level protocol that the IP modules use. The network interface (NI) is comprised of two parts: (a) the NI kernel, which provides the basic functionality, including arbitration between connections, packetizing of messages and schedules them to the routers, ordering, end-to-end flow control, and a link protocol with the router, and (b) the NI shells, which implement additional functionality, such as multicast and narrowcast connections, and adaptors to existing protocols, such as AXI or DTL.

The cited portions of Dielessen further describe that the network interface (NI) communicates with the NI shells via ports, (e.g., DTL ports and AXI ports). A port can have multiple connections to allow differentiated traffic classes (e.g., best effort or guaranteed throughput). Fig. 7 of Dielessen illustrates an NI with two DTL ports and two AXI ports. Dielessen further shows master and slave shells in Figs. 8 and 9, respectively, to sequentialize commands and their flags, addresses and write data in request messages, and to desequentalize messages into read data, and write responses. Examples of message structures after sequentialization are shown in Fig. 10 of Dielessen. It is respectfully submitted that there is no teaching or disclosure of communication threads or address ranges in Dielissen. Accordingly, as discussed above, with respect to Radilescu, Dielissen does not teach or suggest the elements of claim 1. Instead Dielissen teaches the creation of desired properties **prior to their use** which is different from the **mapping means** recited in claim 1. Accordingly, there is no teaching or suggestion in Dielissen of a mapping means (A) for

mapping the requested at least one communication service based on said specific communication properties to a connection based on a set of connection properties according to said at least one communication service identification, wherein said at least one communication service identification comprises at least one communication thread or at least one address range, said address range for identifying one or more second processing modules (S) or a memory region within said one or more second processing modules (S), as recited in claim 1. Hence, claim 1 is allowable.

Claims 2-5 depend from claim 1, which Applicant has shown to be allowable. Hence the cited portions of Dielessen and Radulescu fail to disclose or suggest at least one element of each of claims 2-5. Accordingly, claims 2-5 are also allowable, at least by virtue of their dependence from claim 1.

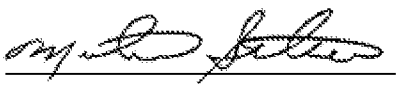
Independent Claims 6 and 7 recite similar subject matter as Independent Claim 1 and therefore contain the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claims 6 and 7 are believed to recite statutory subject matter under 35 USC 102(b).

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-7 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,



Michael A. Scaturro
Reg. No. 51,356
Attorney for Applicant

Mailing Address:
Intellectual Property Counsel
Philips Electronics North America Corp.
P.O. Box 3001
345 Scarborough Road
Briarcliff Manor, New York 10510-8001